



**Conformance Test Report  
for EN301 406 v1.5.1 (2003-07)  
Digital Enhanced Cordless Telecommunic. (DECT);  
Harmonized EN for Digital Enhanced Cordless  
Telecommunications(DECT) covering essential  
requirements under article 3.2 of R&TTE Directive;  
Generic radio**

**Report No.: 60.860.9.025.02R**

Client:	Shenzhen Guo Wei Electronics Co., Ltd.
Product:	DECT Phone
System Under Test (SUT):	DECT20-B94-RF19 (Small) (PP)
Manufacturer	Shenzhen Guo Wei Electronics Co., Ltd.
Date test item received:	2009/03/24
Date test campaign completed	2009/04/13
Date of issue:	2009/04/14
Test results:	COMPLIED

*The test report include test result of conformance log layer 1.*

*Total number of pages of this test report: 27 pages*

**The test result only corresponds to the tested sample. It is not permitted to copy this report, in part or in full, without the permission of the test laboratory.**

Approved by

Deputy Telecom Manager

**TÜV SÜD Hong Kong Ltd.  
TÜV SÜD Group  
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**Report No.: 60.860.9.025.02R**

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## 1.1 Reason for measurements and identification of the protocol

The Test Candidate shall be tested to

DECT, General terminal attachment requirements

EN 300 406 V1.5.1	2003-07
EN 300 175-2, PHL	July 2003

### 1.1.1 Global statement of conformance

Has the applicant filled out the Client Test Preparation Information in accordance to EN301 406	<b>Yes</b>
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see annex ,EN301 406 Statement of the applicant

## 1.2 Identification and functional description of the test candidate

### 1.2.1 Client identification

Name	Shenzhen Guo Wei Electronics Co., Ltd.
Contact person	Mr. C.W. Cheung
Address	No. 68, Guowei Road, Liantang Industrial District, Shenzhen, P.R.C.
Phone No.	+86 755 2573 6666
Fax No.	+86 755 2573 2288

### 1.2.2 Identification of the Test Candidate:

RFPI of the FP with int. antenna	- -
RFPI of the FP with temp. ant. con.	0543210000
Hardware version	- -
Software version	- -
Operating voltage nom/min/max	2.4VDC/2.2VDC/2.8VDC
Serial No of the FP with int. antenna.	- -
Serial No of the FP with temp. ant. con.	- -

### 1.2.3 Functional description

The Test Candidate is a Portable Part with integrated antennas of a cordless telephone system for 3.1 kHz voice-communications on **DECT-standard**. For the integrated antennas a diversity-switch is included to the equipment. This Portable Part is used in combination with a Fixed Part (FP) for connections to the analogue public switched telephone network

For the tests one sample with integrated antenna and one sample with 50  $\Omega$ -connector were available to the test lab.

### 1.3 Climatic Conditions

Temperature °C	Rel. Humidity %	Atmospheric Pressure
nominal value		
aimed +15°C - +35°C	aimed 20% - 75%	aimed 86 - 106 kPa

The requirements for temperature, rel. humidity and atmospheric pressure were observed and be within the specified range.

### 1.4 Measurement accuracy

The measurement accuracy is in accordance with EN301 406 V1.5.1 (2003-07)

Note: All values reflect a confidence level of 95 %.

The actual measurement uncertainties are described at each test.

### 1.5 Test equipment used

Equipment	Inventory-No.:
R&S DECT Type approval system TS 8930 FTAS:	
Process Controller	H1882000176
R&S Signalling unit TS1220	-
RF-Generator	H1882000179
RF-Generator	H1882000187
Spectrum- Analyzer	H1882000186
Switch Matrix	H1882000185
RF-Generator	H1882000162
Software	DOS-Version 3.02F from 19.02.99
Anechoic Chamber V	
Spectrum- Analyzer	H1882000161
RF-Pre-Amplifier	H1882000169
RF-Pre-Amplifier	H1882000170
RF-Filter	H1882000189
RF-Filter	H1882000190
RF-Antenna	H1882000145
RF-Antenna	H1882000146
RF-Antenna	H1882001604
RF-Antenna	H1882001605
Control-PC	H1882000140
Software T_Case_12	V 3.1 from 19.07.99

### 1.6 Explanation of the results abbreviations

P = pass, inside of the specification

P\* = pass, inside of the specification in consideration of the test accuracy

F = failed, exceeding the specification

O = not implicated

- = not tested

? = no clear result considering to the specification

\* = see note

## 1.7 Comments for testing

Delivery date of Test Candidate: . 2009.03.24  
The tests were done from 2009.03.24 at 2009.04.13

### **Test Location: T01**

During the tests were present:  
Mr. Jeff Pong from **TÜV SÜD Hong Kong Ltd.**  
Mr. C.W. Cheung from Shenzhen Guo Wei Electronics Co., Ltd.

The test set-up and tests are according to EN301 406 V1.5.1(2003-07) and **DTAAB DT.04 V10 from 11/99** and the internal test comments of the test lab.

All measurements, in exception of parts of Testcase 6 and Testcase 12, were done at the equipment with 50  $\Omega$ -temporary antenna connector.

All radiated measurements were done in the anechoic chamber  
The test site and the whole test equipment is according to standards  
CTR6, TBR 6, third edition, June 1999.  
EN301 406 V1.5.1(2003-07)

## 2 IUT conformance status according to EN301 406 V1.5.1 (2003-07)

### 2.1 IUT conformance summary

The IUT **has not been** shown by conformance assessment to be non conforming to the general terminal attachment requirements, EN301 406

### 2.2 EN301 406 results overview

Test case	Point	Testcase description	Remarks	Sel.	Run	Verdict
1	4.5.1	Accuracy and stability of RF carriers		Y	Y	Pass
2	4.5.2	Timing jitter: slot - slot on the same channel		Y	Y	Pass
3		Reference timing accuracy of a RFP		N	N	-----
4		Measurement of packet timing accuracy	only for portable part	Y	Y	Pass
5	4.5.3	Transmission burst		Y	Y	Pass
6	4.5.4.1.1	Transmitted power (with an internal antenna) NTP		Y	Y	Pass
7	4.5.4.1.2	Transmitted power (with an external antenna connector)		Y	Y	Pass
8	4.5.5	RF carrier modulation		Y	Y	Pass
9	4.5.6.2	Emissions due to modulation		Y	Y	Pass
10	4.5.6.3	Emissions due to transmitter transients		Y	Y	Pass
11	4.5.6.4	Emissions due to intermodulation	only for basestation with more than one transmitter	N	N	---
12	4.5.6.5	Spurious emissions when allocated a transmit channel	Conducted spurious	Y	Y	Pass
			Radiated spurious			Pass
13	4.5.7.1	Radio receiver sensitivity		Y	Y	Pass
14	4.5.7.2	Radio receiver reference bit error ratio		Y	Y	Pass
15	4.5.7.3	Radio receiver interference performance		Y	Y	Pass
16	4.5.7.4	Radio receiver blocking case 1		Y	Y	Pass
17	4.5.7.5	Radio receiver blocking case 2		Y	Y	Pass
18	4.5.7.6	Receiver intermodulation performance		Y	Y	Pass
19	4.5.7.7	Spurious emissions when the radio endpoint has no allocated transmit channel	only for portable part	Y	Y	Pass

*EN301 406 results overview*

Test case	Point	Testcase description	Remarks	Sel.	Verdict
20	4.5.8	Synchronisation port		N	<b>No test</b>
21	4.5.9	Equipment identity verification /safeguards		N	<b>Manufacturer declaration</b>
22	4.5.10	Efficient use of radio spectrum		N	<b>Manufacturer declaration</b>
23	4.5.11	WRS		N	<b>No test</b>
24	4.5.12	PP to PP communication		N	<b>No test</b>
25	4.5.13	Direct communication		N	<b>No test</b>
26	4.5.14	Higher level modulation		N	<b>No test</b>



## 2.3 Test campaign report

### 2.3.1 TC 1 Accuracy and stability of RF carriers (4.5.1)

aimed for  $t \geq 1$  s with  $\Delta f \leq \pm 50$  kHz under nominal and extreme conditions

	Deviation [kHz]		
	channel 0	channel 5	channel 9
nom. Temperature and nom. Voltage	<b>0.61</b>	<b>0.06</b>	<b>-0.44</b>
0°C and minimum voltage	<b>-3.36</b>	<b>-3.29</b>	<b>-3.22</b>
0°C and maximum voltage	<b>-3.05</b>	<b>-3.64</b>	<b>-3.22</b>
+40°C and minimum voltage	<b>-2.24</b>	<b>-2.30</b>	<b>-2.39</b>
+40°C and maximum voltage	<b>-2.55</b>	<b>-2.90</b>	<b>-2.96</b>

Measurement uncertainty:  $< 1\%$

aimed for  $t \leq 1$  s with  $\Delta f \leq \pm 100$  kHz under nominal and extreme conditions

	Deviation [kHz]		
	Channel 0	Channel 5	Channel 9
nom. Temperature and nom. Voltage	<b>0.47</b>	<b>0.14</b>	<b>-0.50</b>
0°C and minimum voltage	<b>-3.30</b>	<b>-3.35</b>	<b>-3.22</b>
0°C and maximum voltage	<b>-3.11</b>	<b>-3.51</b>	<b>-3.35</b>
+40°C and minimum voltage	<b>-2.29</b>	<b>-2.54</b>	<b>-2.42</b>
+40°C and maximum voltage	<b>-2.73</b>	<b>-2.87</b>	<b>-2.72</b>

Comment: minimum voltage = 2.2V

### 2.3.2 TC 2 Timing jitter: slot- slot on the same channel (8.3)

Test in channel 5 aimed $< \pm 1$ $\mu$ s	Deviation [ $\mu$ s]	
	positive	Negative
nom. Temperature and nom. Voltage	<b>0.123</b>	<b>-0.120</b>
0°C and minimum voltage	<b>0.120</b>	<b>-0.114</b>
0°C and maximum voltage	<b>0.144</b>	<b>-0.152</b>
+40°C and minimum voltage	<b>0.120</b>	<b>-0.111</b>
+40°C and maximum voltage	<b>0.101</b>	<b>-0.120</b>

Measurement uncertainty:  $\leq 77.4$  ns

Comment: minimum voltage = 2.2V

### 2.3.3 TC 3 Reference timing accuracy of a RFP only recommended for fixed part

### 2.3.4 TC 4 Measurement of packet transmission accuracy

The packet time delay minimum shall be greater than 5ms -2 $\mu$ s

The packet time delay maximum shall be less than 5ms+2 $\mu$ s

Voltage(V)	Temperature(°C)	Packet Time Delay( $\mu$ s)					
		channel 0		channel 5		channel 9	
		max.	min.	max.	min.	max.	min.
nom.	nom.	<b>0.123</b>	<b>-0.105</b>	<b>0.089</b>	<b>-0.098</b>	<b>0.118</b>	<b>-0.136</b>
min.	min.	<b>0.098</b>	<b>-0.101</b>	<b>0.097</b>	<b>-0.104</b>	<b>0.096</b>	<b>-0.103</b>
	max.	<b>0.086</b>	<b>0.095</b>	<b>0.135</b>	<b>-0.118</b>	<b>0.170</b>	<b>-0.173</b>
max.	min.	<b>0.089</b>	<b>-0.092</b>	<b>0.152</b>	<b>-0.154</b>	<b>0.141</b>	<b>-0.106</b>
	max.	<b>0.127</b>	<b>-0.136</b>	<b>0.095</b>	<b>-0.091</b>	<b>0.096</b>	<b>-0.093</b>

Measurement uncertainty:  $\leq 77.4$  ns

Comment: minimum voltage = 2.2V

P  
P  
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P

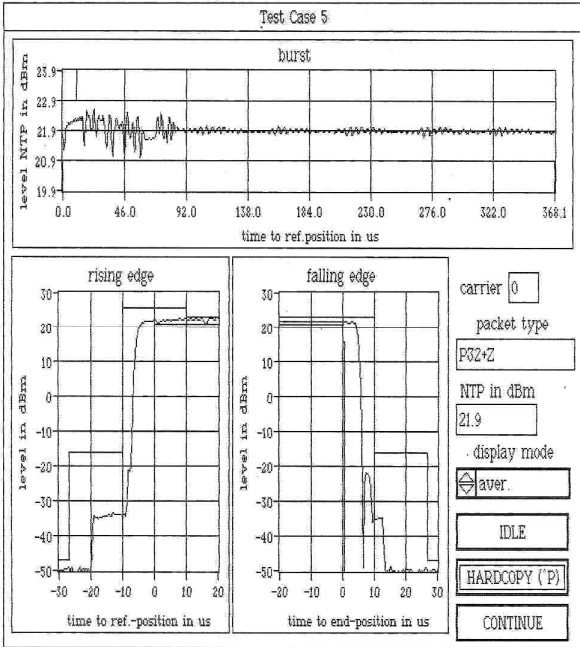
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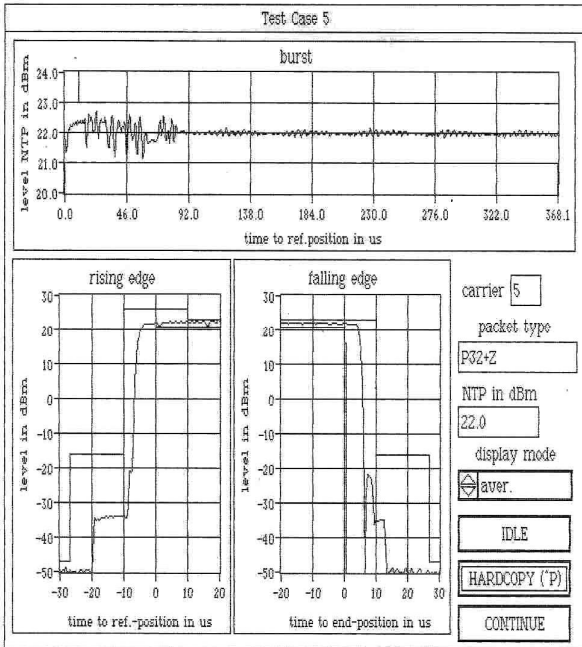
2.3.5 TC 5 Transmission Burst (4.5.3)

Measurement uncertainty: + 0.85 dB / -0.92 dB



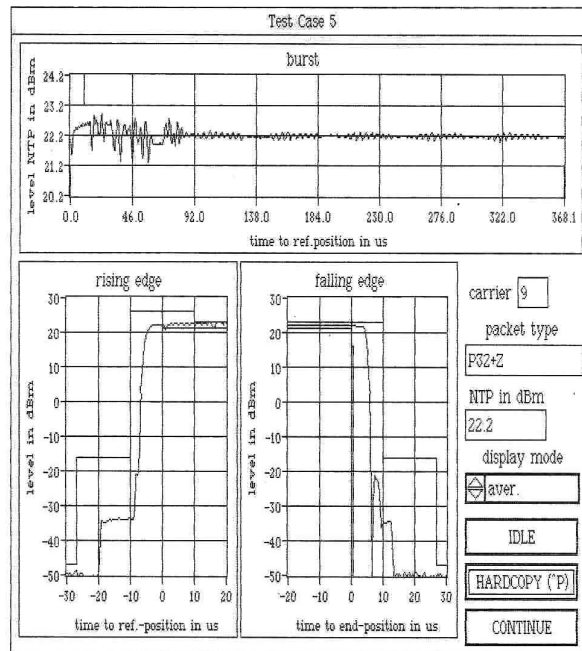
Nom. Temperature and nom. Voltage

P



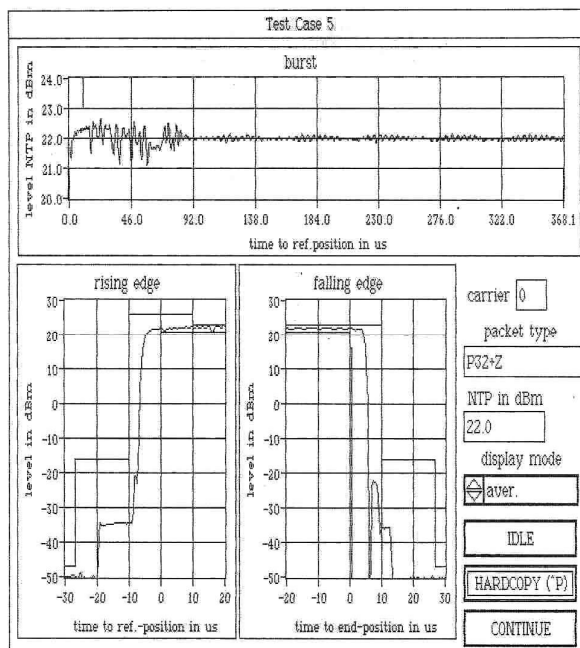
Nom. Temperature and nom. Voltage

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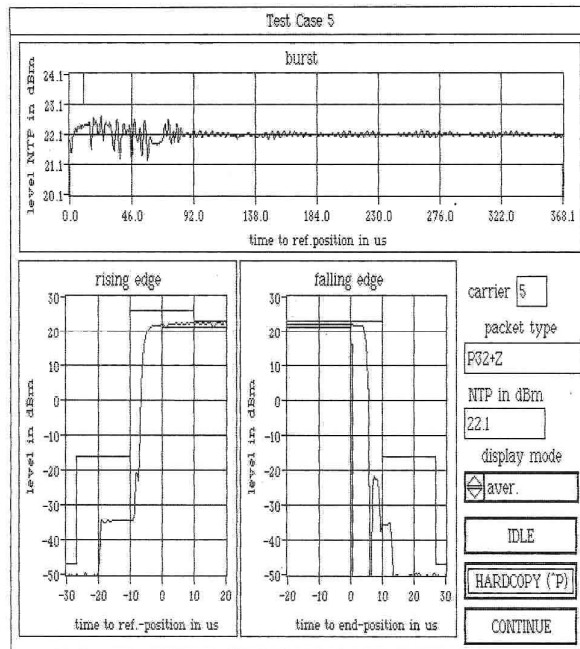
Nom. Temperature and nom. Voltage

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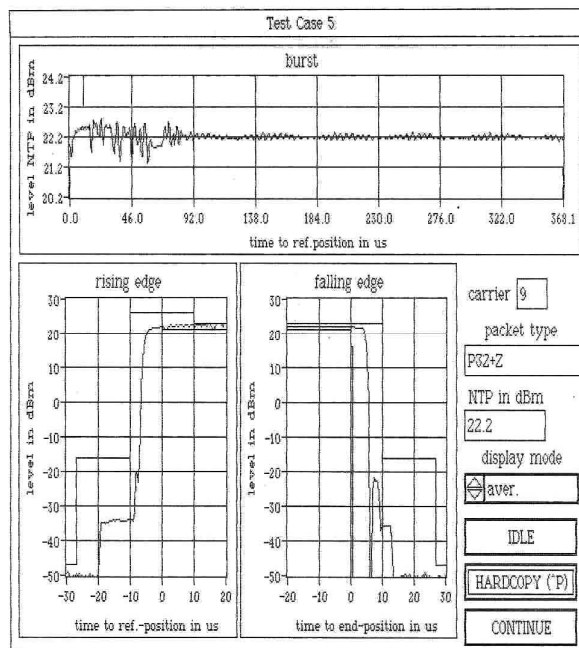
+0°C temperature and nom. Voltage

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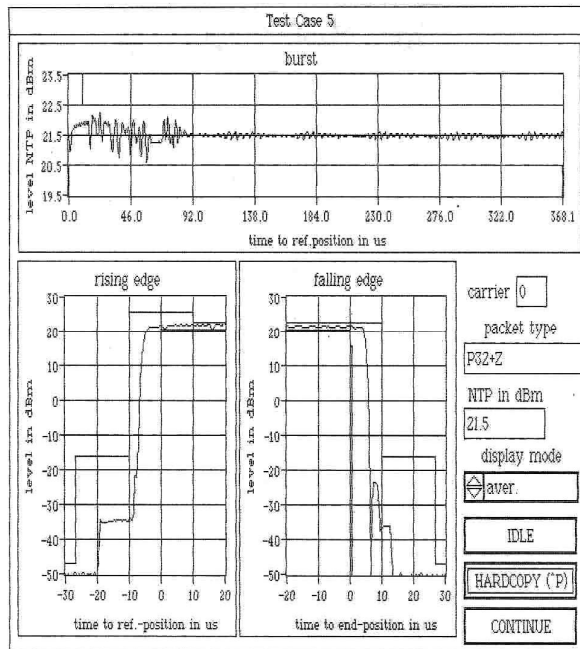
+0°C temperature and nom. Voltage

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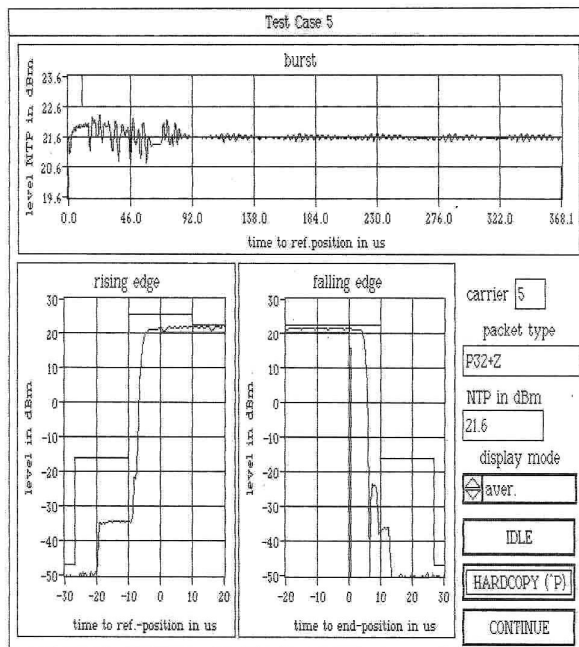
+0°C temperature and nom. Voltage

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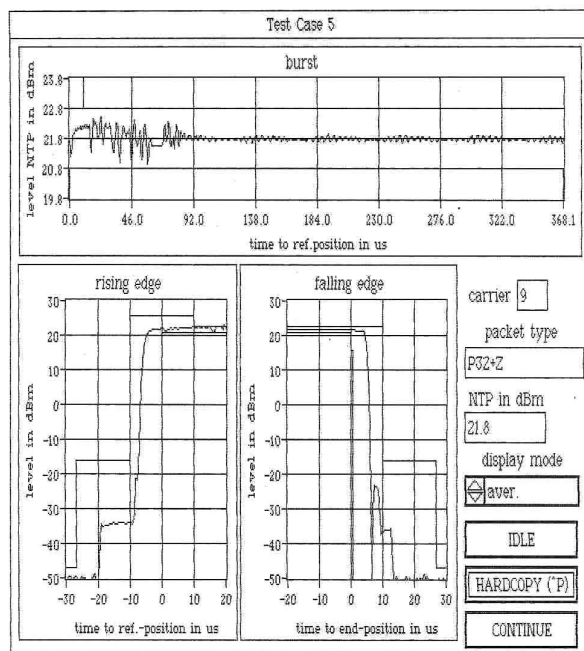
+40°C temperature and nom. Voltage

P



+40°C temperature and nom. Voltage

P



+40°C temperature and nom. Voltage

P

### 2.3.6 TC 6 Transmitted power: PP and RFP with integral antenna (4.5.4.1.1)

Conducted RF-output power in the Burst: aimed  $\leq 250$  mW (24 dBm)  
 Height of receive antenna actual = **1.50 m**  
 Radiated field strength maximum at position in degrees ant. 0 actual = **10°** hor  
 Antenna gain: aimed with max. 12 dB

Antenna	conducted Power	radiated Power	Antenna gain
Channel 0	21.90 dBm	18.18 dBm	-3.72 dB
Channel 5	22.00 dBm	18.07 dBm	-3.93 dB
Channel 9	22.20 dBm	18.05 dBm	-4.15 dB

Comment: This measurement is necessary only for internal antenna connection(s).

Measurement uncertainty radiated: + 3.53 dB / -3.53 dB  
 Measurement uncertainty conducted: + 0.85 dB / -0.92 dB

### 2.3.7 TC 7 Transmitted power: FP with an external antenna Connector (4.5.4.1.2)

P

Antenna	conductive Power
Channel 0	21.90 dBm
Channel 5	22.00 dBm
Channel 9	22.00 dBm

### 2.3.8 TC 8 RF-carrier modulation (4.5.5)

part 1: aimed  $> \pm 259 \text{ kHz} < \pm 403 \text{ kHz}$   
part 2-3: aimed  $> \pm 202 \text{ kHz} < \pm 403 \text{ kHz}$   
part 4: aimed  $< \pm 17 \text{ kHz/slot}$

Measurement uncertainty part 1-3:  $\pm 10 \text{ kHz}$   
part 4:  $\pm 2 \text{ kHz}$

TRAFFIC SLOT: 16  
TRAFFIC CARRIER: 5  
PACKET TYPE: P32+Z  
part1: 10 bursts evaluated  
maximum positive modulation: 361.76 kHz  
maximum negative modulation: -358.25 kHz  
part2: 10 bursts evaluated  
maximum positive modulation: 378.34 kHz  
maximum negative modulation: -352.66 kHz  
part3: 10 bursts evaluated  
maximum positive modulation: 345.89 kHz  
maximum negative modulation: -349.40 kHz  
part4: 200 bursts evaluated  
averaged frequency drift: -2.55 kHz/slot

P  
P  
P  
P  
P  
P

### 2.3.9 TC 9 Emissions due to modulation (4.5.6.2)

Measurement uncertainty:  $+ 0.49 \text{ dB} / -0.51 \text{ dB}$   
One exception  $< -33 \text{ dBm}$  (500 nW) permissible

TRAFFIC SLOT: 18  
TRAFFIC CARRIER: 0  
PACKET TYPE: P32+Z  
measured NTP: 21.90 dBm

	measured values	limits	
CARRIER 0: integrated power	21.90 dBm	---	P
CARRIER 1: integrated power	- 17.74 dBm	-8 dBm	P
CARRIER 2: integrated power	- 37.94 dBm	-30 dBm	P
CARRIER 3: integrated power	- 47.43 dBm	-41 dBm	P
CARRIER 4: integrated power	- 49.28 dBm	-44 dBm	P
CARRIER 5: integrated power	- 50.29 dBm	-44 dBm	P
CARRIER 6: integrated power	- 50.90 dBm	-44 dBm	P
CARRIER 7: integrated power	- 51.07 dBm	-44 dBm	P
CARRIER 8: integrated power	- 50.67 dBm	-44 dBm	P
CARRIER 9: integrated power	- 51.30 dBm	-44 dBm	P

TRAFFIC SLOT: 20  
TRAFFIC CARRIER: 5  
PACKET TYPE: P32+Z  
measured NTP: 22.00 dBm

	measured values	limits	
CARRIER 0: integrated power	- 50.6 dBm	-44 dBm	P
	7		
CARRIER 1: integrated power	- 49.6 dBm	-44 dBm	P
	5		
CARRIER 2: integrated power	- 47.3 dBm	-41 dBm	P
	7		
CARRIER 3: integrated power	- 40.9 dBm	-30 dBm	P
	9		
CARRIER 4: integrated power	- 20.1 dBm	-8 dBm	P
	3		
CARRIER 5: integrated power	22.0 dBm	---	P
	0		

CARRIER 6:	integrated power	- 18.9 dBm 2	-8 dBm	P
CARRIER 7:	integrated power	- 38.3 dBm 0	-30 dBm	P
CARRIER 8:	integrated power	- 47.7 dBm 7	-41 dBm	P
CARRIER 9:	integrated power	- 49.5 dBm 3	-44 dBm	P



TRAFFIC SLOT:	22				
TRAFFIC CARRIER:	9				
PACKET TYPE:	P32+Z				
measured NTP:	22.20 dBm				
		measured values	limits		
CARRIER 0:	integrated power	- 51.6 dBm	-44 dBm	P	
		7			
CARRIER 1:	integrated power	- 51.2 dBm	-44 dBm	P	
		7			
CARRIER 2:	integrated power	- 51.3 dBm	-44 dBm	P	
		6			
CARRIER 3:	integrated power	- 51.1 dBm	-44 dBm	P	
		0			
CARRIER 4:	integrated power	- 50.6 dBm	-44 dBm	P	
		5			
CARRIER 5:	integrated power	- 48.8 dBm	-44 dBm	P	
		8			
CARRIER 6:	integrated power	- 47.5 dBm	-41 dBm	P	
		9			
CARRIER 7:	integrated power	- 41.0 dBm	-30 dBm	P	
		7			
CARRIER 8:	integrated power	- 20.1 dBm	-8 dBm	P	
		3			
CARRIER 9:	integrated power	22.2 dBm	---	P	
		0			

#### 2.3.10 TC 10 Emissions due to transmitter transients (4.5.6.3)

Measurement uncertainty: + 0.49 dB / -0.51 dB

TRAFFIC SLOT:	18				
TRAFFIC CARRIER:	0				
PACKET TYPE:	P32+Z				
		measured values	limits		
CARRIER 0:	max. Power	141.05 mW ( 21.49 dBm)	---	p	
CARRIER 1:	max. Power	114.27 uW ( -9.42 dBm)	-6 dBm	p	
CARRIER 2:	max. Power	300.58 nW ( -35.22 dBm)	-14 dBm	p	
CARRIER 3:	max. Power	25.19 nW ( -45.99 dBm)	-24 dBm	p	
CARRIER 4:	max. Power	111.24 nW ( -39.54 dBm)	-30 dBm	p	
CARRIER 5:	max. Power	10.12 nW ( -49.95 dBm)	-30 dBm	p	
CARRIER 6:	max. Power	15.78 nW ( -48.02 dBm)	-30 dBm	p	
CARRIER 7:	max. Power	9.71 nW ( -50.13 dBm)	-30 dBm	p	
CARRIER 8:	max. Power	103.70 nW ( -39.84 dBm)	-30 dBm	p	
CARRIER 9:	max. Power	8.90 nW ( -50.51 dBm)	-30 dBm	p	

TRAFFIC SLOT:	20					
TRAFFIC CARRIER:	1					
PACKET TYPE:	P32+Z					
		measured values		limits		
CARRIER 0:	max. Power	61.13 uW ( -12.14 dBm)		-6 dBm		p
CARRIER 1:	max. Power	146.08 mW ( 21.65 dBm)		---		p
CARRIER 2:	max. Power	124.02 uW ( -9.07 dBm)		-6 dBm		p
CARRIER 3:	max. Power	305.90 nW ( -35.14 dBm)		-14 dBm		p
CARRIER 4:	max. Power	33.35 nW ( -44.77 dBm)		-24 dBm		p
CARRIER 5:	max. Power	111.24 nW ( -39.54 dBm)		-30 dBm		p
CARRIER 6:	max. Power	10.67 nW ( -49.72 dBm)		-30 dBm		p
CARRIER 7:	max. Power	11.71 nW ( -49.31 dBm)		-30 dBm		p
CARRIER 8:	max. Power	10.30 nW ( -49.87 dBm)		-30 dBm		p
CARRIER 9:	max. Power	104.92 nW ( -39.79 dBm)		-30 dBm		p
TRAFFIC SLOT:	22					
TRAFFIC CARRIER:	2					
PACKET TYPE:	P32+Z					
		measured values		limits		
CARRIER 0:	max. Power	276.95 nW ( -35.58 dBm)		-14 dBm		p
CARRIER 1:	max. Power	61.13 uW ( -12.14 dBm)		-6 dBm		p
CARRIER 2:	max. Power	144.38 mW ( 21.60 dBm)		---		p
CARRIER 3:	max. Power	133.04 uW ( -8.76 dBm)		-6 dBm		p
CARRIER 4:	max. Power	349.93 nW ( -34.56 dBm)		-14 dBm		p
CARRIER 5:	max. Power	27.66 nW ( -45.58 dBm)		-24 dBm		p
CARRIER 6:	max. Power	105.54 nW ( -39.77 dBm)		-30 dBm		p
CARRIER 7:	max. Power	11.24 nW ( -49.49 dBm)		-30 dBm		p
CARRIER 8:	max. Power	12.71 nW ( -48.96 dBm)		-30 dBm		p
CARRIER 9:	max. Power	11.37 nW ( -49.44 dBm)		-30 dBm		p
TRAFFIC SLOT:	14					
TRAFFIC CARRIER:	3					
PACKET TYPE:	P32+Z					
		measured values		limits		
CARRIER 0:	max. Power	28.32 nW ( -45.48 dBm)		-24 dBm		p
CARRIER 1:	max. Power	268.97 nW ( -35.70 dBm)		-14 dBm		p
CARRIER 2:	max. Power	58.33 uW ( -12.34 dBm)		-6 dBm		p
CARRIER 3:	max. Power	147.80 mW ( 21.70 dBm)		---		p
CARRIER 4:	max. Power	137.79 uW ( -8.61 dBm)		-6 dBm		p
CARRIER 5:	max. Power	409.77 nW ( -33.87 dBm)		-14 dBm		p
CARRIER 6:	max. Power	30.73 nW ( -45.12 dBm)		-24 dBm		p
CARRIER 7:	max. Power	109.31 nW ( -39.61 dBm)		-30 dBm		p
CARRIER 8:	max. Power	12.06 nW ( -49.19 dBm)		-30 dBm		p
CARRIER 9:	max. Power	13.71 nW ( -48.63 dBm)		-30 dBm		p
TRAFFIC SLOT:	16					
TRAFFIC CARRIER:	4					
PACKET TYPE:	P32+Z					
		measured values		limits		
CARRIER 0:	max. Power	97.81 nW ( -40.10 dBm)		-30 dBm		P
CARRIER 1:	max. Power	34.55 nW ( -44.62 dBm)		-24 dBm		p
CARRIER 2:	max. Power	243.52 nW ( -36.13 dBm)		-14 dBm		p
CARRIER 3:	max. Power	67.52 uW ( -11.71 dBm)		-6 dBm		p

CARRIER 4:	max. Power	150.42 mW	( 21.77 dBm)	---	p
CARRIER 5:	max. Power	135.39 uW	( -8.68 dBm)	-6 dBm	p
CARRIER 6:	max. Power	393.34 nW	( -34.05 dBm)	-14 dBm	p
CARRIER 7:	max. Power	36.20 nW	( -44.41 dBm)	-24 dBm	p
CARRIER 8:	max. Power	116.57 nW	( -39.33 dBm)	-30 dBm	p
CARRIER 9:	max. Power	14.63 nW	( -48.35 dBm)	-30 dBm	p

TRAFFIC SLOT:	18				
TRAFFIC CARRIER:	5				
PACKET TYPE:	P32+Z				
		measured values		limits	
CARRIER 0:	max. Power	11.24 nW	( -49.49 dBm)	-30 dBm	p
CARRIER 1:	max. Power	94.44 nW	( -40.25 dBm)	-30 dBm	p
CARRIER 2:	max. Power	24.47 nW	( -46.11 dBm)	-24 dBm	p
CARRIER 3:	max. Power	236.51 nW	( -36.26 dBm)	-14 dBm	p
CARRIER 4:	max. Power	60.06 uW	( -12.21 dBm)	-6 dBm	p
CARRIER 5:	max. Power	155.79 mW	( 21.93 dBm)	---	p
CARRIER 6:	max. Power	119.05 uW	( -9.24 dBm)	-6 dBm	p
CARRIER 7:	max. Power	288.52 nW	( -35.40 dBm)	-14 dBm	p
CARRIER 8:	max. Power	29.33 nW	( -45.33 dBm)	-24 dBm	p
CARRIER 9:	max. Power	106.78 nW	( -39.72 dBm)	-30 dBm	p

TRAFFIC SLOT:	20				
TRAFFIC CARRIER:	6				
PACKET TYPE:	P32+Z				
		measured values		limits	
CARRIER 0:	max. Power	11.99 nW	( -49.21 dBm)	-30 dBm	p
CARRIER 1:	max. Power	11.44 nW	( -49.42 dBm)	-30 dBm	p
CARRIER 2:	max. Power	92.80 nW	( -40.32 dBm)	-30 dBm	p
CARRIER 3:	max. Power	24.04 nW	( -46.19 dBm)	-24 dBm	p
CARRIER 4:	max. Power	206.75 nW	( -36.85 dBm)	-14 dBm	p
CARRIER 5:	max. Power	60.42 uW	( -12.19 dBm)	-6 dBm	p
CARRIER 6:	max. Power	157.62 mW	( 21.98 dBm)	---	p
CARRIER 7:	max. Power	116.98 uW	( -9.32 dBm)	-6 dBm	p
CARRIER 8:	max. Power	330.05 nW	( -34.81 dBm)	-14 dBm	p
CARRIER 9:	max. Power	29.85 nW	( -45.25 dBm)	-24 dBm	p

TRAFFIC SLOT:	22				
TRAFFIC CARRIER:	7				
PACKET TYPE:	P32+Z				
		measured values		limits	
CARRIER 0:	max. Power	8.90 nW	( -50.51 dBm)	-30 dBm	p
CARRIER 1:	max. Power	12.34 nW	( -49.09 dBm)	-30 dBm	p
CARRIER 2:	max. Power	10.98 nW	( -49.59 dBm)	-30 dBm	p
CARRIER 3:	max. Power	93.34 nW	( -40.30 dBm)	-30 dBm	p
CARRIER 4:	max. Power	24.47 nW	( -46.11 dBm)	-24 dBm	p
CARRIER 5:	max. Power	225.70 nW	( -36.46 dBm)	-14 dBm	p
CARRIER 6:	max. Power	59.37 uW	( -12.26 dBm)	-6 dBm	p
CARRIER 7:	max. Power	156.70 mW	( 21.95 dBm)	---	p
CARRIER 8:	max. Power	99.89 uW	( -10.00 dBm)	-6 dBm	p
CARRIER 9:	max. Power	333.94 nW	( -34.76 dBm)	-14 dBm	p

TRAFFIC SLOT:	14				
TRAFFIC CARRIER:	8				
PACKET TYPE:	P32+Z				
		measured values		limits	
CARRIER 0:	max. Power	88.04 nW	( -40.55 dBm)	-30 dBm	p
CARRIER 1:	max. Power	8.49 nW	( -50.71 dBm)	-30 dBm	p
CARRIER 2:	max. Power	12.56 nW	( -49.01 dBm)	-30 dBm	p
CARRIER 3:	max. Power	11.64 nW	( -49.34 dBm)	-30 dBm	p

CARRIER 4:	max. Power	94.44 nW	( -40.25 dBm)	-30 dBm	p
CARRIER 5:	max. Power	26.09 nW	( -45.83 dBm)	-24 dBm	p
CARRIER 6:	max. Power	249.28 nW	( -36.03 dBm)	-14 dBm	p
CARRIER 7:	max. Power	71.16 uW	( -11.48 dBm)	-6 dBm	p
CARRIER 8:	max. Power	158.54 mW	( 22.00 dBm)	---	p
CARRIER 9:	max. Power	144.38 uW	( -8.40 dBm)	-6 dBm	p

TRAFFIC SLOT:	16				
TRAFFIC CARRIER:	9				
PACKET TYPE:	P32+Z				
		measured values		limits	
CARRIER 0:	max. Power	9.71 nW	( -50.13 dBm)	-30 dBm	p
CARRIER 1:	max. Power	86.01 nW	( -40.65 dBm)	-30 dBm	p
CARRIER 2:	max. Power	9.05 nW	( -50.43 dBm)	-30 dBm	p
CARRIER 3:	max. Power	14.88 nW	( -48.27 dBm)	-30 dBm	p
CARRIER 4:	max. Power	10.18 nW	( -49.92 dBm)	-30 dBm	p
CARRIER 5:	max. Power	103.10 nW	( -39.87 dBm)	-30 dBm	p
CARRIER 6:	max. Power	37.71 nW	( -44.24 dBm)	-24 dBm	p
CARRIER 7:	max. Power	262.75 nW	( -35.80 dBm)	-14 dBm	p
CARRIER 8:	max. Power	66.34 uW	( -11.78 dBm)	-6 dBm	p
CARRIER 9:	max. Power	156.70 mW	( 21.95 dBm)	---	p

### 2.3.11 TC 11 Emissions due to intermodulation (4.5.6.4)

*only for basestations with several transmitters*

### 2.3.12 TC 12 Spurious emissions when allocated a transmit channel (4.5.6.5)

Channel 5, radiated

values <6 dB of the limit-line are listed

30 MHz – 1 GHz	aimed ≤ -36 dBm	actual ≤ -56.75 dBm	P
1 GHz – 4 GHz	aimed ≤ -30 dBm	actual ≤ -42.69 dBm	P
Peak at 3.777 GHz hor.	aimed ≤ -30 dBm	actual ≤ -36.69 dBm	P
broadcast bands according to TBR 6	aimed ≤ -47 dBm	actual ≤ -69.45 dBm	P

Measurement uncertainty f<1GHz: + 2.89 dB / -2.98 dB  
f>1GHz: + 3.53 dB / -3.53 dB

Channel 5, conducted

TRAFFIC SLOT:	2			
TRAFFIC CARRIER:	5			
PACKET TYPE:	P32+Z			
Wideband Measurements				
Range from	300kHz to	12750.00 MHz		P
Measurement uncertainty f>1GHz:	+ 1.40 dB / -1.75 dB			

### 2.3.13 TC 13 Radio receiver sensitivity (4.5.7.1)

At a level of -83 dBm the BER shall be  $\leq 10^{-3}$ .  
Measurement uncertainty: + 0.25 dB / -0.27 dB

TRAFFIC SLOT:	16				
TRAFFIC CARRIER:	0				
PACKET TYPE:	P32+Z				
Center frequency offset:	0 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	-50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
TRAFFIC SLOT:	18				
TRAFFIC CARRIER:	5				
PACKET TYPE:	P32+Z				
Center frequency offset:	0 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	-50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
TRAFFIC SLOT:	20				
TRAFFIC CARRIER:	9				
PACKET TYPE:	P32+Z				
Center frequency offset:	0 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P
Center frequency offset:	-50 kHz				
BER: 0.00000000	FER: 0.000000	evaluated:	320 kbit		P

### 2.3.14 TC 14 Radio receiver reference bit error ratio (4.5.7.2)

At a level of -73 dBm the BER shall be  $\leq 10^{-5}$ , the FER shall be  $\leq 5 \cdot 10^{-4}$ .  
Measurement uncertainty: + 0.25 dB / -0.27 dB

TRAFFIC SLOT:	22				
TRAFFIC CARRIER:	0				
PACKET TYPE:	P32+Z				
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit		P
TRAFFIC SLOT:	14				
TRAFFIC CARRIER:	5				
PACKET TYPE:	P32+Z				
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit		P
TRAFFIC SLOT:	16				
TRAFFIC CARRIER:	9				
PACKET TYPE:	P32+Z				
BER: 0.00000000	FER: 0.000000	evaluated:	32.000 Mbit		P



### 2.3.15 TC 15 Receiver interference performance (4.5.7.3)

The BER shall be  $\leq 10^{-3}$ .

Measurement uncertainty: + 0.32 dB / -0.34 dB

TRAFFIC SLOT: 18  
 TRAFFIC CARRIER: 0  
 PACKET TYPE: P32+Z  
 BER: FER: kBit: intf.car: lev in dBm:  
 0.000000 0.000000 320 -3 -33.0  
 0.000000 0.000000 320 -2 -39.0  
 0.000106 0.000000 471 -1 -60.0  
 0.000126 0.000000 600 0 -84.0  
 0.000000 0.000000 320 1 -60.0  
 0.000000 0.000000 320 2 -39.0  
 0.000003 0.000000 326 3 -33.0  
 0.000000 0.000000 320 4 -33.0  
 0.000000 0.000000 320 5 -33.0  
 0.000000 0.000000 320 6 -33.0  
 0.000000 0.000000 320 7 -33.0  
 0.000000 0.000000 320 8 -33.0  
 0.000000 0.000000 320 9 -33.0  
 0.000000 0.000000 320 10 -33.0  
 0.000000 0.000000 320 11 -33.0  
 0.000000 0.000000 320 12 -33.0

TRAFFIC SLOT: 20  
 TRAFFIC CARRIER: 5  
 PACKET TYPE: P32+Z  
 BER: FER: kBit: intf.car: lev in dBm:  
 0.000000 0.000000 320 -3 -33.0  
 0.000000 0.000000 320 -2 -33.0  
 0.000003 0.000000 326 -1 -33.0  
 0.000000 0.000000 320 0 -33.0  
 0.000000 0.000000 320 1 -33.0  
 0.000000 0.000000 320 2 -33.0  
 0.000000 0.000000 320 3 -39.0  
 0.000332 0.000000 1038 4 -60.0  
 0.000070 0.000000 442 5 -84.0  
 0.000000 0.000000 320 6 -60.0  
 0.000000 0.000000 320 7 -39.0  
 0.000000 0.000000 320 8 -33.0  
 0.000000 0.000000 320 9 -33.0  
 0.000000 0.000000 320 10 -33.0  
 0.000000 0.000000 320 11 -33.0  
 0.000000 0.000000 320 12 -33.0

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TRAFFIC SLOT: 22  
 TRAFFIC CARRIER: 9  
 PACKET TYPE: P32+Z  
 BER: FER: kBit: intf.car: lev in dBm:  
 0.000000 0.000000 320 -3 -33.0  
 0.000000 0.000000 320 -2 -33.0  
 0.000000 0.000000 320 -1 -33.0  
 0.000000 0.000000 320 0 -33.0  
 0.000000 0.000000 320 1 -33.0  
 0.000000 0.000000 320 2 -33.0  
 0.000000 0.000000 320 3 -33.0  
 0.000000 0.000000 320 4 -33.0  
 0.000000 0.000000 320 5 -33.0  
 0.000000 0.000000 320 6 -33.0  
 0.000003 0.000000 326 7 -39.0  
 0.000302 0.000000 874 8 -60.0  
 0.000068 0.000000 454 9 -84.0  
 0.000000 0.000000 320 10 -60.0  
 0.000000 0.000000 320 11 -39.0  
 0.000000 0.000000 320 12 -33.0

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### 2.3.16 TC 16 Radio receiver blocking, case 1 (4.5.7.4)

The BER shall be  $\leq 10^{-3}$ .

Measurement uncertainty: + 0.81 dB / -0.96 dB conducted

Measurement uncertainty: + 3.00 dB / -3.00 dB radiated

TRAFFIC SLOT: 14  
 TRAFFIC CARRIER: 5  
 PACKET TYPE: P32+Z  
 transmitter level: -80.00 dBm  
 additional CW interferer level: 0.00 dB  
 start frequency: 25.00 MHz  
 stop frequency: 100.00 MHz  
 step frequency: 1.00 MHz  
 320 kBit to evaluate

P

TRAFFIC SLOT: 16  
 TRAFFIC CARRIER: 5  
 PACKET TYPE: P32+Z  
 transmitter level: -80.00 dBm  
 additional CW interferer level: 0.00 dB  
 start frequency: 101.00 MHz  
 stop frequency: 2900.00 MHz  
 step frequency: 1.00 MHz  
 320 kBit to evaluate

p

TRAFFIC SLOT: 20  
 TRAFFIC CARRIER: 5  
 PACKET TYPE: P32+Z  
 transmitter level: -80.00 dBm  
 additional CW interferer level: 0.00 dB  
 start frequency: 2901.00 MHz  
 stop frequency: 12750.00 MHz  
 step frequency: 1.00 MHz  
 320 kBit to evaluate

P



### 2.3.17 TC 17 Radio receiver blocking, case 2 (4.5.7.5)

The BER shall be  $\leq 10^{-3}$ .

Measurement uncertainty: + 0.63 dB / -0.71 dB

TRAFFIC SLOT: 16  
TRAFFIC CARRIER: 0  
PACKET TYPE: P32+Z  
BER: 0.00000000 FER: 0.000000 evaluated: 320 kbit

P

TRAFFIC SLOT: 18  
TRAFFIC CARRIER: 5  
PACKET TYPE: P32+Z  
BER: 0.00000000 FER: 0.000000 evaluated: 320 kbit

P

TRAFFIC SLOT: 20  
TRAFFIC CARRIER: 9  
PACKET TYPE: P32+Z  
BER: 0.00000000 FER: 0.000000 evaluated: 320 kbit

P

### 2.3.18 TC 18 Receiver intermodulation performance (4.5.7.6)

The BER shall be  $\leq 10^{-3}$ .

Measurement uncertainty: + 0.40 dB / -0.43 dB

TRAFFIC SLOT: 22  
TRAFFIC CARRIER: 0  
PACKET TYPE: P32+Z  
M: 0 A: 2 B: 4  
BER: 0.000000 FER: 0.0000 eval.data: 320 kbit  
M: 0 A: -2 B: -4  
BER: 0.000864 FER: 0.0000 eval.data: 1594 kbit

P

P

TRAFFIC SLOT: 14  
TRAFFIC CARRIER: 5  
PACKET TYPE: P32+Z  
M: 5 A: 7 B: 9  
BER: 0.000000 FER: 0.0000 eval.data: 320 kbit  
M: 5 A: 3 B: 1  
BER: 0.000918 FER: 0.0000 eval.data: 1594 kbit

P

P

TRAFFIC SLOT: 16  
TRAFFIC CARRIER: 9  
PACKET TYPE: P32+Z  
M: 9 A: 11 B: 13  
BER: 0.000000 FER: 0.0000 eval.data: 320 kbit  
M: 9 A: 7 B: 5  
BER: 0.000909 FER: 0.0000 eval.data: 1594 kbit

P

P

### 2.3.19 TC 19 Spurious emissions when the radio endpoint has no allocated transmit ch. (4.5.7.7)

The EUT shall conformance

Outside the DECT band:

The emission as measured shall not be greater than 2nW (-57dbm) between 30MHz and 1GHz;  
and between 1GHz and 12.75GHz the emission as measured shall not exceed 20nW(-47dBm).

Inside the DECT band:

The power level as measured of any spurious emission shall not exceed 2nW(-57dBm) in a 1MHz Bandwidth.

In one 1MHz band within the DECT frequency band, the maximum allowable ERP shall be less than 20nW(-47dBm)

In up to two bands of 30KHz, the maximum ERP shall less than 250nw(-36dBm)

Radiated spurious emission

RF ranges	Maximun peak power level	Result/max.value
30MHz-----1.0GHz	2nW(-57dBm)	-69.65 dBm
1GHz-----4GHz	20nW(-47dBm)	-52.73 dBm
Inside the DECT band	2nW(-57dBm)	-63.24 dBm

Measurement uncertainty radiated: + 3.53 dB / -3.53 dB

Remark:30MHz-1GHz is marginal result in uncertainty range

Conducted spurious emission

RF ranges	Maximun peak power level	Result/max.value
30MHz-----1.0GHz	2nW(-57dBm)	-70.51 dBm
1GHz-----12.75GHz	20nW(-47dBm)	-53.13 dBm
Inside the DECT band	2nW(-57dBm)	-63.97 dBm

Measurement uncertainty conducted:+ 0.85 dB / -0.92 dB

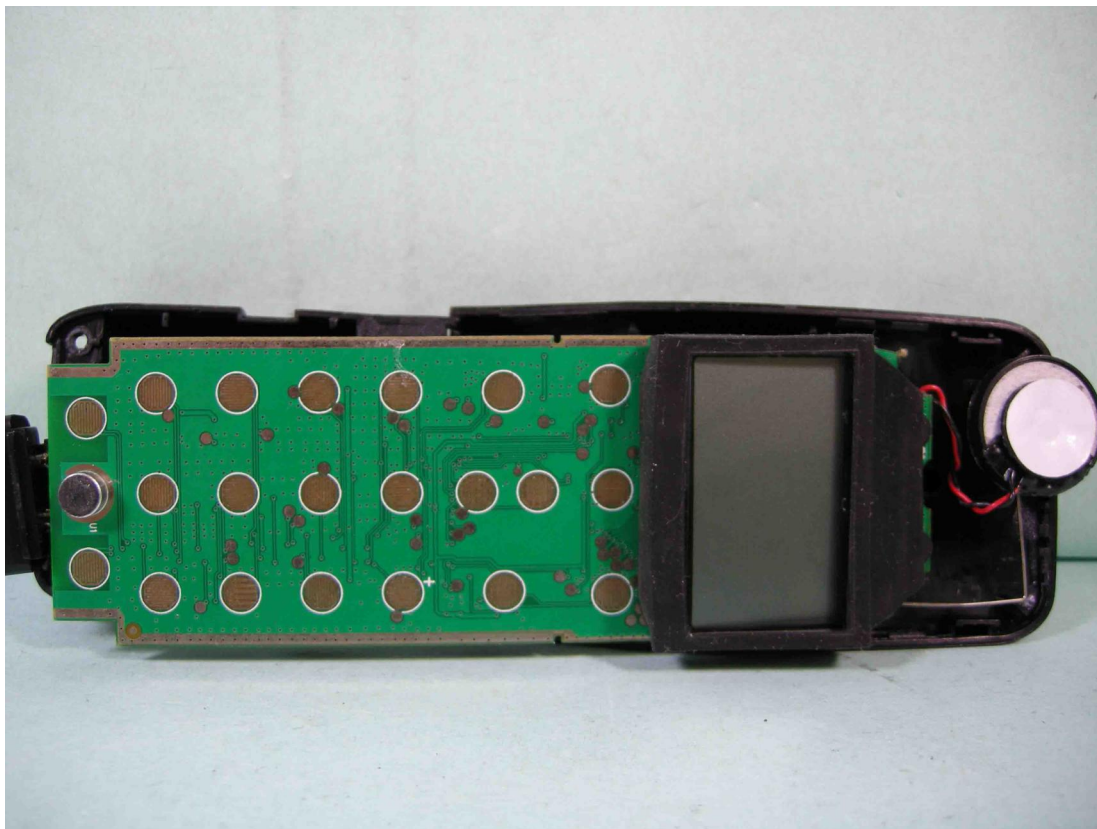
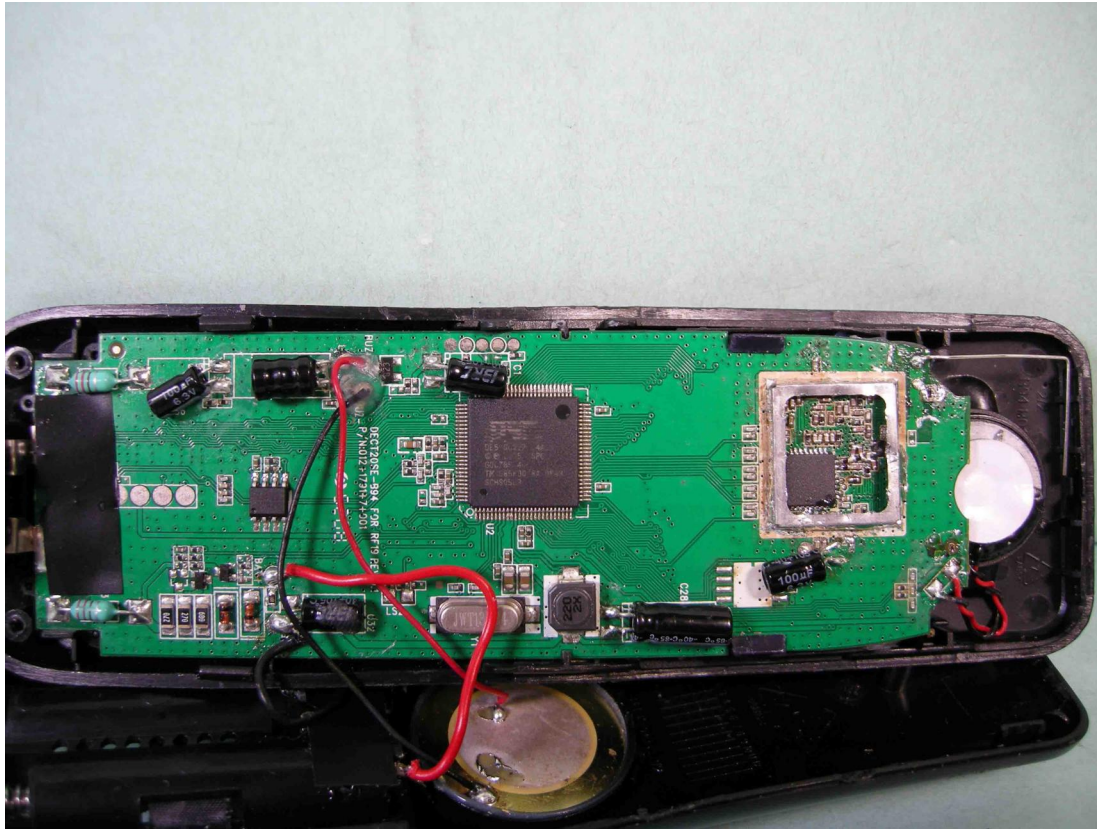
- 2.3.20 TC 20 Synchronisation port (4.5.8)**  
No test
- 2.3.21 TC 21 Equipment identity verification (4.5.9)**  
Statement of the applicant“
- 2.3.22 TC 22 Efficient use of radio spectrum (4.5.10)**  
Statement of the applicant“
- 2.3.23 TC23 WRS (4.5.11)**  
No test
- 2.3.24 TC24 PP to PP communication (4.5.12)**  
No test
- 2.3.25 TC25 Direct communication (4.5.13)**  
No test
- 2.3.26 TC26 Higher level modulation (4.5.14)**  
No test

**4 Appendix** Photo of the Test Candidate (exterior)





Photo of the Test Candidate (interior)



# MANUFACTURER DECLARATION

## SunCorp Communications Limited

Room 1907-08, 19/F, Harcourt House, 39 Gloucester Road, Wanchai, Hong Kong

(Name / Address)

declares for the Digital Enhanced Cordless Telecommunications (DECT) telephone system specified as

DECT20-B94-RF19(small)

### The Portable Part (PP):

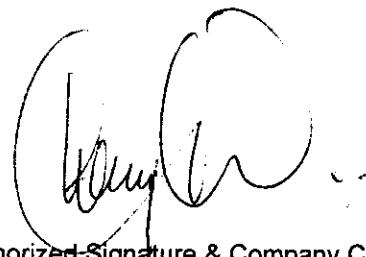
It is not possible for the user to alter the IPEI using any normally accessible procedure. We supply, in addition to the equipment, sufficient means in the equipment with instructions in the documentation to permit validation of the Equipment Manufacturer's Code and verification of the existence of the Portable equipment Serial Number (PSN) code in the equipment.

### The Fixed Part (FP):

DECT FPs which do not transmit the TA escape message transmits the Nr message as defined in EN 300 175-3 [3] at least once every 10 seconds on all active physical channels; These Nr identity messages are transmitted with the appropriate A-field header code as defined in EN 300 175-3[3] and the Nr message contains an ETSI distributed code as defined in EN 300 175-6[6].

(Date) 2009-3-20

(Printed full Name) CW Cheung



(Authorized Signature & Company Chop)

# MANUFACTURER DECLARATION

## SunCorp Communications Limited

Room 1907-08, 19/F, Harcourt House, 39 Gloucester Road, Wanchai, Hong Kong

(Name / Address)

declare for the Digital Enhanced Cordless Telecommunications (DECT) telephone system specified as

DECT20-B94-RF19(small)

(Model Number)

For the portable radio termination (PT):

The first PT transmission on the newly selected channel is made in accordance with the scan sequence of the addressed RFP.  
To continue transmitting on the newly selected physical channel the PT transmissions within 2 frames of the first PT transmission.

For the fixed radio termination (FT):

The RFP do not transmit on more than 2 physical channels for which complementary physical channels do not exist.

A complementary physical channel is a physical channel between the same two radio endpoints which occurs 5 ms before or after the physical channel to which is complementary.

When an FT is addressing a specific PT then the first FT transmission is made in accordance with the scan sequence of the addressed PT receiver.

To continue transmitting on the selected physical channel the FT receives and indication that the PT is receiving the FT transmissions within 2 frames of the first FT transmission.

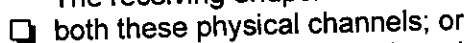
For the channel release:

A REP cease transmission on all physical channels if it has not received a valid indication of the other radio endpoint's identity within 10 seconds of the receipt of the last indication.

A REP which transmits on both the physical channel and complementary physical channel cease to transmit on the channels if either:



The receiving endpoint indicate to the transmitting endpoint that transmission cease on



The transmitting FT or PT is no longer attempting to receive at least one physical channel from the FT or PT to which it is transmitting.

In General:

No more than two physical channels based on the half slot format are sent within the same frame to the same REP;

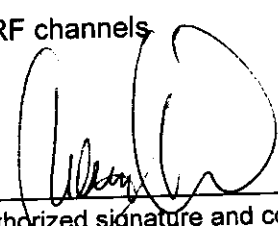
The EUT is capable of communicating on all 10 DECT RF channels

2009-3-20

(Date)

CW Cheung

(Printed full name)

  
(Authorized signature and company chop)